

June 30, 2004



Scott R. Pundsack B.A.Sc. (Civil Eng.), LL.B.  
416 957 1698 spundsack@bereskinparr.com

Our Reference: 4320-540

## Information Disclosure Statement

Commissioner of Patents  
P.O. Box 1450  
Alexandria, VA  
U.S.A. 22313-1450

Dear Sir:

**Re: U.S. Patent Application No: 10/801,660**  
**For: SUPPORTED BIOFILM APPARATUS AND PROCESS**  
**Filed: March 17, 2004**  
**Inventors: HUSAIN et al.**

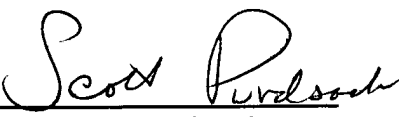
---

In accordance with 37 C.F.R. 1.97 and 1.98, and in recognition of the duty of disclosure set forth in 37 C.F.R. 1.56, the applicants hereby submit an Information Disclosure Statement including a listing, on PTO Form SB/08A, of all patents and other publications of which the applicant is aware that may be considered material to the patentability of its claimed invention. Pursuant to 37 CFR 1.98(d), copies of references are not being provided since there are no new references listed over and above the references previously supplied by the Applicants or cited by the Office in Application Serial No. 10/777,204.

This Information Disclosure Statement is filed within 3 months of the filing date or before the first Office Action and no fee is required.

Respectfully submitted,

**HUSAIN et al.**

By:   
Scott R. Pundsack  
Registration No. 47,330

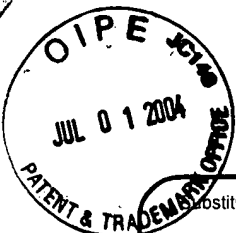
*Please send all correspondence to the Toronto office:*

Scotia Plaza, 40 King St. West, 40th Floor,  
Toronto, Ontario, Canada M5H 3Y2  
Tel: 416.364.7311 Fax: 416.361.1398

2000 Argentia Rd., Plaza 4, Ste. 430,  
Mississauga, Ontario, Canada L5N 1W1  
Tel: 905.812.3600 Fax: 905.814.0031

Waterloo Technology Campus, 408 Albert St., Ste. 2,  
Waterloo, Ontario, Canada N2L 3V3  
Tel: 519.783.3210 Fax: 519.783.3211

**www.bereskinparr.com**



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 3

Complete if Known

Application Number	10/801,660
Filing Date	March 17, 2004
First Named Inventor	HUSAIN
Art Unit	1744
Examiner Name	Not yet assigned
Attorney Docket Number	4320-540

U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code <sup>2</sup> (if known)			
		US- 4,126,544	11-21-1978	Baensch et al.	
		US- 4,181,604	01-01-1980	Onishi et al.	
		US- 4,416,993	11-22-1983	McKeown	
		US- 4,746,435	05-24-1988	Onishi et al.	
		US- 4,883,594	11-28-1989	Sekoulov et al	
		US- 5,034,164	07-31-1991	Semmens	
		US- 5,116,506	05-26-1992	Williamson et al.	
		US- 5,126,050	06-30-1992	Irvine et al.	
		US- 5,149,649	09-22-1992	Miyamori et al.	
		US- 6,013,511	01-11-2000	Diels et al.	
		US- 6,183,643	02-06-2001	Goodley	
		US- 6,531,062	03-11-2003	Whitehill	
		US- 6,558,549	05-06-2003	Cote et al.	
		US- 2003/0104192	06-05-2003	Hester et al.	
		US- 6,387,262	05-14-2002	Rittmann et al.	
		US- 5,238,562	08-24-1993	Rogut	
		US- 5,716,689	02-10-1998	Rogut	
		US- 6,241,867	06-05-2001	Mir	
		US- 4,664,681	05-12-1987	Anazawa et al.	
		US- 2,458,163	01-04-1949	Hays	

FOREIGN PATENT DOCUMENTS

Examiner Initials *	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> - Number <sup>4</sup> - Kind Code <sup>5</sup> (if known)				
		DE 3544382	06-05-1987	Sekoulov et al.		
		DE 4440464	06-19-1996	Dietzmann et al.		
		English language abstract of JP 54-21057				
		JP 54-21057	02-16-1979	Doriko		
		WO87/03615	06-18-1987	Sekoulov et al.		
		EP 0 049 954	04-21-1982	Mitsubishi Rayon Co. Ltd.		

Examiner  
Signature

Date  
Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Substitute for form 1449A/PTO

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

*(Use as many sheets as necessary)*

Sheet

2

of

3

**Complete if Known**

Application Number

10/801,660

Filing Date

March 17, 2004

*First Named Inventor*

HUSAIN

*Art Unit*

1744

Examiner Name

Not yet assigned

Attorney Docket Number

4320-540

## U.S. PATENT DOCUMENTS

[illegible]

## FOREIGN PATENT DOCUMENTS

[illegible]

Examiner  
Signature

Date  
Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*

Substitute for form 1449B/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 3 of 3

**Complete if Known**

Application Number	10/801,660
Filing Date	March 17, 2004
First Named Inventor	HUSAIN
Art Unit	1744
Examiner Name	Not yet assigned
Attorney Docket Number	4320-540

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		DR. MICHAEL J. SEMMENS and DENISE HANUS, "Studies of a Membrane Aerated Bioreactor for Wastewater Treatment", Cranfield University, June 1999.	
		BRINDLE et al., "Nitrification and Oxygen Utilisation in a Membrane Aeration Bioreactor, Journal of Membrane Science, 1998	
		COTE et al., "Bubble-free Aeration Using Membranes: Process Analysis", Journal Water Pollution Control Federation, November 1998	
		COTE et al., "Bubble-free Aeration Using Membranes: Mass Transfer Analysis", Journal of Membrane Science, 1989.	
		YEH, SHOW-JONG and CHARLES R. JENKINS, "Pure Oxygen Fixed Film Reactor", Journal of the Environmental Engineering Division, August 1978, pp 611-623	
		WOOLARD, C.R., "The Advantages of Periodically Operated Biofilm Reactors for the Treatment of Highly Variable Wastewater", Wat. Sci. Tech. Vol. 35, No 1. pp. 199-206, 1997.	
		TWAROWSKA-SCHMIDT, KRYSZYNA and ANDRZEJ WLOCHOWICZ, "Melt-spun Asymmetric Poly(4-methyl-1-pentene) Hollow Fibre Membranes", Journal of Membrane Science 137 (1997) 55-61.	
		YAMAGIWA et al., "Simultaneous Organic Carbon Removal and Nitrification by Biofilm Formed on Oxygen Enrichment Membrane", Journal of Chemical Engineering of Japan, 27(1994) October 638-643	
		CASEY et al., "Review of Membrane Aerated Biofilm Reactors", Resources, Conservation and Recycling 27 (1999) 203-215	

Examiner  
SignatureDate  
Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.